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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,301	06/27/2001	Mark W. Davis	INXT 1017-I	1991
22470	7590	11/26/2004	EXAMINER	
HAYNES BEFFEL & WOLFELD LLP P O BOX 366 HALF MOON BAY, CA 94019			CHEN, CHONGSHAN	
		ART UNIT	PAPER NUMBER	
		2162		

DATE MAILED: 11/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/893,301	DAVIS ET AL.	
	Examiner Chongshan Chen	Art Unit 2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1-10 is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____ .   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/27/01</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: ____ .                                   |

## **DETAILED ACTION**

1. Claims 1-10 are pending in this Office Action.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 27 June 2001 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

#### **MPEP 2106 IV. B.2. (b)**

A claim that requires one or more acts to be performed defines a process. However, not all processes are statutory under 35 U.S.C. 101. Schrader, 22 F.3d at 296, 30 USPQ2d at 1460. To be statutory, a claimed computer-related process must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application within the technological arts.

Claims 1-10, in view of the above cited MPEP section, are not statutory because they merely recite a number of computing steps without producing any tangible result and/or being

limited to a practical application within the technological arts. The use of a computer has not been indicated.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Castelli et al. (“Castelli”, US 6,122,628).

As per claim 1, Castelli discloses a method of incrementally updating precision and recall curves in a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a list of their m nearest neighbors and corresponding similarity scores, wherein  $m > k$  (Castelli, col. 11, lines 54-66, “let k be the desired number of nearest neighbors to a template in a database of N elements ... a user typically requests a number of returned results greater than k. Let n be the number of returned results greater than k ...”);

adding or deleting one or more original documents and their category assignments (Castelli, col. 15, lines 11-19, “if the k-nearest neighbor set (1009) is not empty at the beginning of step 1007, then the intra-cluster search logic, in step 1007 updates the k-nearest neighbor set

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when an element is found whose mismatch index  $\delta^2$  is smaller than the largest of the indexes currently associated with elements in the k-nearest neighbor set (1009). The k-nearest neighbor set can be updated by removing the element with largest mismatch index  $\delta^2$  from the k-nearest neighbor set (1009) and substituting the newly found element for it”;

identifying the documents influenced by the adding or deleting (Castelli, col. 15, line 3 – col. 16, line 67);

updating one or more category scores of the influenced documents (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories having updated category scores (Castelli, col. 11, line 65 – col. 12, line 67, precision =  $E(c)/n$ , recall =  $E(c)/k$ ).

As per claim 2, Castelli discloses a method of incrementally updating precision and recall curves in a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a list of their m nearest neighbors and corresponding similarity scores, wherein  $m > k$  (Castelli, col. 11, lines 54-66);

adding or deleting one or more category assignments to one or more original documents (Castelli, col. 15, line 3 – col. 16, line 67);

updating category scores of the documents influenced by the adding or deleting of one or more category assignments, for at least the categories to which the category assignments were added or deleted (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories having updated category scores (Castelli, col. 11, line 65 – col. 12, line 67, precision =  $E(c)/n$ , recall =  $E(c)/k$ ).

As per claim 3, Castelli discloses a method of incrementally adding category assignments to particular original documents in a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 – col. 5, line 11, col. 13, line 66 – col. 14, line 19);

retaining for the original documents a second list of m-k additional nearest neighbors and corresponding similarity scores (Castelli, col. 11, lines 54-66);

adding one or more category assignments for one or more particular original documents (Castelli, col. 15, line 3 – col. 16, line 67);

computing category scores for the particular original documents and a predetermined number of nearest neighbors of the particular original documents, for those categories to which the category assignments are added, based on the retained similarity scores (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories to which the category assignments are added (Castelli, col. 11, line 65 - col. 12, line 67, precision =  $E(c)/n$ , recall =  $E(c)/k$ ).

As per claim 4, Castelli discloses a method of incrementally adding one or more documents to a k nearest neighbor database, said database including original documents,

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categories, category assignments for the original documents,, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 – col. 5, line 11, col. 13, line 66 – col. 14, line 19);

retaining for the original documents a second list of m-k additional nearest neighbors and corresponding similarity scores (Castelli, col. 11, lines 54-66);

adding one or more documents; calculating similarity scores between the added documents, and the added and original documents; modifying the retained first and second nearest neighbor lists for a predetermined number of nearest neighbors of the added documents; adding category assignments for the added documents; computing one or more category scores for the added documents and the predetermined number of nearest neighbors of the added documents, based on the retained and calculated similarity scores (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories to which the category assignments are added (Castelli, col. 11, line 65 - col. 12, line 67, precision = E(c)/n, recall = E(c)/k).

As per claim 5, Castelli discloses a method of incrementally deleting category assignments from particular documents in a k nearest neighbor database, said database include original documents, category, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 – col. 5, line 11, col. 13, line 66 – col. 14, line 19);

retaining for the original documents a second list of m-k additional nearest neighbors and corresponding similarity scores (Castelli, col. 11, lines 54-66);

deleting or deleting one or more category assignments for one or more particular original documents; computing category scores for the particular original documents and a predetermined number of nearest neighbors of the particular original documents, for those categories to which the category assignments are deleted, based on the retained similarity scores (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories to which the category assignments are deleted (Castelli, col. 11, line 65 - col. 12, line 67, precision =  $E(c)/n$ , recall =  $E(c)/k$ ).

As per claim 6, Castelli discloses a method of incrementally deleting documents from a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 – col. 5, line 11, col. 13, line 66 – col. 14, line 19);

retaining for the original documents a second list of m-k additional nearest neighbors and corresponding similarity scores (Castelli, col. 11, lines 54-66);

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deleting one or more of the original documents and corresponding category assignments from the database; deleting the deleted documents from the retained first and second nearest neighbor lists for a predetermined number of nearest neighbors of the deleted documents; computing one or more category scores for a predetermined number of nearest neighbors of the deleted documents, based on the retained similarity scores (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories in which the deleted documents had category assignments (Castelli, col. 11, line 65 - col. 12, line 67, precision =  $E(c)/n$ , recall =  $E(c)/k$ ).

As per claim 7, Castelli discloses a method of incrementally adding category assignments to particular original documents in a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 – col. 5, line 11, col. 13, line 66 – col. 14, line 19);

creating an influence list of original documents having a particular original document among their k nearest neighbors (Castelli, col. 11, lines 54-66);

adding one or more category assignments for one or more particular original documents; identifying influenced original documents from the influence list for the particular original documents to which the category assignments are added; computing category scores of the influenced original documents and of the particular original documents, for those categories to

which the category assignments are added, based on the retained similarity scores (Castelli, col. 15, line 3 – col. 16, line 67); and

computing precision and recall curves for the categories to which the category assignments are added (Castelli, col. 11, line 65 - col. 12, line 67, precision = E(c)/n, recall = E(c)/k).

As per claim 8, Castelli discloses a method of incrementally adding one or more documents to a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 - col. 5, line 11, col. 13, line 66 - col. 14, line 19);

creating an influence list of those original documents having certain original documents among their k nearest neighbors (Castelli, col. 11, lines 54-66);

adding one or more documents to the database; calculating similarity scores between the added documents, and the added and original documents; updating the retained first list of k nearest neighbors to include the added documents; updating the influence list to include the added documents; adding category assignments for the added documents; computing one or more category scores of the added and original documents influenced by the category assignments, based on the retained and calculated similarity scores (Castelli, col. 15, line 3 - col. 16, line 67); and

computing precision and recall curves for the categories to which the category assignments are added (Castelli, col. 11, line 65 - col. 12, line 67, precision =  $E(c)/n$ , recall =  $E(c)/k$ ).

As per claim 9, Castelli discloses a method of incrementally deleting category assignments from particular documents in a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 - col. 5, line 11, col. 13, line 66 - col. 14, line 19);

creating an influence list of those original documents having certain original documents among their k nearest neighbors (Castelli, col. 11, lines 54-66);

deleting one or more category assignments for one or more particular original documents; identifying influenced original documents from the influence list for the particular original documents from which the category assignments are deleted; computing category scores of the influenced original documents and of the particular original documents for those categories from which the category assignments are deleted, based on the retained similarity scores (Castelli, col. 15, line 3 - col. 16, line 67); and

computing precision and recall curves for the categories from which the category assignments are deleted (Castelli, col. 11, line 65 - col. 12, line 67, precision =  $E(c)/n$ , recall =  $E(c)/k$ ).

As per claim 10, Castelli discloses a method of incrementally deleting one or more documents to a k nearest neighbor database, said database including original documents, categories, category assignments for the original documents, and category scores for the original documents, the method including:

retaining for the original documents a first list of their k nearest neighbors and corresponding similarity scores (Castelli, col. 4, line 55 - col. 5, line 11, col. 13, line 66 - col. 14, line 19);

retaining for the original documents a second list of m-k additional nearest neighbors and corresponding similarity scores (Castelli, col. 11, lines 54-66);

creating an influence list of those original documents having certain original documents among their k nearest neighbors (Castelli, col. 4, line 55 - col. 5, line 11, col. 11, lines 54-66, col. 13, line 66 - col. 14, line 19);

deleting one or more documents from the database and corresponding category assignments; updating the retained first and second lists of m nearest neighbors to delete the deleted documents; updating the influence list to delete the deleted documents; computing one or more category scores of the original documents influenced by the deleted documents, based on the retained similarity scores (Castelli, col. 15, line 3 - col. 16, line 67); and

computing precision and recall curves for the categories in which the deleted documents had category assignments (Castelli, col. 11, line 65 - col. 12, line 67, precision = E(c)/n, recall = E(c)/k).

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***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chongshan Chen whose telephone number is (571)272-4031. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (571)272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chongshan Chen  
November 20, 2004



JEAN M. CORRIELUS  
PRIMARY EXAMINER